K-C 17,157
27839-00144

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Alice Romans Hess, et al.   Art Unit 3761
Serial No. 10/684,181
Filed October 10, 2003
Confirmation No. 2587
For ABSORBENT ARTICLES HAVING INCREASED ABSORBENCY OF COMPLEX FLUIDS
Examiner

APPEAL BRIEF

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May 12, 2008

APPEAL BRIEF

This is an appeal from the final rejection of the claims of the above-referenced application made in the final Office action dated January 28, 2008. A Notice of Appeal was filed on March 10, 2008.

I. REAL PARTY IN INTEREST

The real party in interest in connection with the present appeal is Kimberly-Clark Worldwide, Inc. of 401 N. Lake Street, Neenah, Wisconsin 54957-0349, a corporation of the state of Delaware, owner of a 100 percent interest in the pending application.

II. RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any pending appeals, which may be related to, directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-4, 6-10, 12-20, and 22-28 are currently pending in the application for consideration. Claims 5, 11, 21, and 29 were cancelled during prosecution of this application. A copy of the claims involved in this appeal appears in the Claims Appendix of this Brief.

Claims 1-4, 6-10, 12-20, and 22-28 stand rejected.

The rejections of claims 1-4, 6-10, 12-20, and 22-28 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments have been filed after the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following summary correlates claim elements to specific embodiments described in the application specification, but does not in any manner limit claim interpretation. Rather, the following summary is provided only to facilitate the Board's understanding of the subject matter of this appeal.

With reference to the present specification and drawings, claim 1 is directed to an absorbent article for absorbing a complex fluid. See page 8, paragraph [0021]. The absorbent article has an absorbent structure and superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents that have an average surface area to volume ratio of at least about 0.05 μm^{-1}. See page 8, paragraphs [0021]; pages 20-21, paragraphs [0049]-[0050]; and Fig. 2. The flake superabsorbents have an average thickness of no more than about 40 micrometers. See page 21, paragraph [0051]. Additionally, the flake superabsorbents have a particle size distribution of from about 100 micrometers to about 850 micrometers. See page 22, paragraph [0052].

Claim 15 is directed to a feminine napkin including an absorbent structure and superabsorbent particles. See page 8, paragraph [0021]. At least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles of the feminine napkin are flake superabsorbents that have an average surface area to volume ratio of at least about 0.05 μm^{-1}. See page 8, paragraphs [0021]; pages 20-21, paragraphs [0049]-[0050]; and Fig. 2. The flake superabsorbents have an average thickness of no more than about 40 micrometers. See page 21, paragraph [0051]. Additionally, the flake superabsorbents have a particle size distribution of from about 100 micrometers to about 850 micrometers. See page 22, paragraph [0052].

Claim 24 is directed to a method for absorbing blood or menses. See page 8, paragraph [0021] and Example 3 (pages 26-28, paragraps [0063]-[0068]). The method includes contacting the blood or menses with an absorbent article superabsorbent particles. See page 8, paragraph [0021]. At least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles of the absorbent article are flake superabsorbents that have an average surface area to volume ratio of at least about 0.05 μm^{-1}. See page 8, paragraphs [0021]; pages 20-21, paragraphs [0049]-[0050]; and Fig. 2. The flake superabsorbents have an average thickness of no more than about 30 micrometers. See page 21, paragraph [0051]. Additionally, the flake superabsorbents have a particle size distribution of from about 100 micrometers to about 850 micrometers. See page 22, paragraph [0052].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants appeal the rejections of claims 1-4, 6-10, 12-16, 22-24, and 27 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,437,214 (Everett, et al.).

Appellants appeal the rejections of claims 17-20, 25-26, and 28 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,437,214 (Everett, et al.).

VII. ARGUMENT

A. Claims 1-4, 6-10, 12-16, 22-24, and 27 are submitted to be unanticipated by and patentable over U.S. Patent No. 6,437,214 (Everett, et al.).

Claim 1 is directed to an absorbent article for absorbing a complex fluid. The absorbent article comprises an absorbent structure and superabsorbent particles, wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents and have an average surface area to volume ratio of at least about 0.05 μm^{-1}, an average thickness of no more than about 40 micrometers, and a particle size distribution of from about 100 micrometers to about 850 micrometers.

Everett, et al. disclose an absorbent article comprising an absorbent core having multiple absorbent layers that interact in such a way that absorbed liquid is preferentially located in an appointed, high saturation wicking layer. Absorbed liquid is moved quickly through the absorbent layers by means of capillary action. The intake capability of the absorbent system is maintained by keeping a layer of the absorbent system at low saturation levels through as many insults of the product as possible, and controlling intake performance through control of the composite properties of the absorbent layers.

Significantly, no where in the Everett, et al. reference is it taught or suggested that the absorbent article comprises superabsorbent particles, wherein at least about 5% **(by total weight of the superabsorbent particles)** are flake superabsorbents. This is a significant requirement of claim 1 and an important aspect of Applicants' invention.

Although Everett, et al. do state that the superabsorbent particles used in their absorbent products may have a flake shape, (*see* Everett, et al., col. 15, lines 37-39), there is no disclosure in Everett, et al., including in the Examples, of an absorbent article comprising superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents. At best, Everett, et al. teach that the first layer of their absorbent article can include a minimum of not less than about 5 wt.% **of the first layer of superabsorbent material.**[1]

Specifically, as noted in Applicants' specification on page 8, paragraph 21, it has been surprisingly discovered that by utilizing superabsorbent particles in flake form having an average surface area to volume ratio of at least about $0.05\mu m^{-1}$, the absorbent product can absorb complex bodily fluids such as plasma, blood, menses, mucus, and liquid bowel movement in an improved manner as compared to conventional absorbent products utilizing spherical-like superabsorbent particles. Furthermore, Applicants have found that by using at least about 5% (by total weight of the superabsorbent particles), more suitably, at least about 10% (by total weight of the superabsorbent particles), more suitably, at least about 15% (by total weight of the superabsorbent particles), more suitably, at least about 25%(by total weight of the superabsorbent particles), more suitably, at least about 35%(by total weight of the superabsorbent particles), more suitably, at least about 50%(by total weight of the superabsorbent particles), more suitably, at least about 70%(by total weight of the superabsorbent particles), more suitably, at least about 90%(by total weight of the superabsorbent particles), and even more suitably, about 100%

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[1] *See* U.S. 6,437,214 at column 7, lines 43-50.

(by total weight of the superabsorbent particles) of flake superabsorbent particles, the absorbent products have an improved rate of intake and capacity for complex fluids.[2]

In the Response to Arguments section of the final office action, the Office states that Applicants' argument that Everett, et al. fail to teach or suggest using at least 5% by total weight of the superabsorbent particles as flake superabsorbents is unpersuasive as Applicants' instant specification discloses that the term "flake superabsorbents" also refers to ribbon superabsorbents and Everett, et al. refer specifically to ribbon superabsorbent materials as suitable superabsorbents.

With all due respect, Applicants are confused with the Office's reasoning as Applicants agree that Everett, et al. disclose ribbon and flake-superabsorbents and Applicants' instant specification does state that flake-superabsorbents include ribbon superabsorbents, however, no where in Everett, et al. is it taught or suggested to use at least 5% (by weight of total superabsorbent in the absorbent article) flake superabsorbent particles.

Moreover, in direct contrast to Applicants' disclosure, Everett, et al. teach the use of spherical superabsorbents. For example, in one preferred embodiment of Everett, et al., and in the Examples, the controlled-rate superabsorbent is configured with relatively large particle sizes to provide particles having a low, surface area to volume ratio, which thereby produces the desired absorbent rate. In particular, Everett, et al. disclose that the controlled-rate superabsorbent particles can have a **substantially spherical or other three-dimensional shape which operatively generates the desired low ratio of surface-area-to-**

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[2] *See* Specification, at page 20, paragraph 49.

volume and delayed absorbency rates.[3] As such, Everett, et al. fail to teach, or even recognize, claim 1's requirement that at least about 5% by total weight of the superabsorbent particles be flake superabsorbent particles.

Claims 2-4, 6-10, and 12-14 depend from claim 1 and are therefore patentable for the same reasons as set forth above for claim 1 as well as for the additional elements they require.

Claim 15 is similar to claim 1 and further requires the absorbent article to be a feminine napkin. As such, claim 15 is patentable for the same reasons as set forth above for claim 1 as well as for the additional elements it requires.

Claims 16 and 22-23 depend from claim 15 and are therefore patentable for the same reasons as set forth above for claim 15 as well as for the additional elements they require.

Claim 24 is directed to a method for absorbing blood or menses. The method comprises contacting the blood or menses with an absorbent article comprising superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents and have an average surface area to volume ratio of at least about 0.05 μm^{-1}, a thickness of no more than about 30 micrometers, and a particle size distribution of from about 100 micrometers to about 850 micrometers. Claim 24 is patentable for the same reasons as set forth above for claim 1 as well as for the additional elements it requires.

Claim 27 depends from claim 24 and is therefore patentable for the same reasons as set forth above for claim 24 as well as for the additional elements it requires.

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[3] U.S. 6,437,214 at column 18, line 65 through column 19, line 5.

B. Claims 17-20, 25-26, and 28 are submitted to be patentable over U.S. Patent No. 6,437,214 (Everett, et al.).

Claims 17-20 depend from claim 1. As discussed above, claim 1 is patentable over the Everett, et al. As claims 17-20 depend from claim 1, claims 17-20 are patentable over the Everett, et al. reference for the same reasons as claim 1, as well as for the additional elements they require.

In order for the Office to show a *prima facie* case of obviousness, M.P.E.P. §2142 requires a clear articulation of the reasons why the claimed invention would have been obvious. Specifically, the Supreme Court in KSR International Co. v. Teleflex Inc., 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the burden lies initially with the Office to provide an explicit analysis supporting a rejection under 35 U.S.C. 103. "[R]ejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."[4] The Court in KSR International further identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in Graham v. John Deere Co. (383 U.S. 1, 148 USPQ 459 (1966). Specifically, as previously required by the TSM (teaching, suggestion, motivation) approach to obviousness, one exemplary rationale indicated requires some teaching, suggestion, or motivation in the prior art reference that would have led one of ordinary skill to modify the prior art reference to arrive at the claimed invention. Specifically, to reject a claim based on this rationale, the Office must clearly articulate the following: (1) a finding that there was some teaching, suggestion, or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to arrive at each and every limitation of the claimed invention; (2) a finding that there was reasonable expectation of success; and (3) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness. The Office has failed to meet its burden under number (1) above, as the cited reference fails to show each and every limitation of Applicants' invention and there is no apparent reason for one skilled in the art to modify/combine the references to arrive at each and every limitation. It simply would not have been obvious to one skilled in the art to arrive at Applicants' claimed combinations.

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[4] In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

As noted above, there is simply nothing in Everett, et al. stating that its superabsorbents as disclosed should comprise at least about 5% (by total weight of the superabsorbent particles) are flake superabsorbents. Nor is there any reason for one skilled in the art, reading Everett, et al., to modify the superabsorbents described therein to arrive at a superabsorbent that comprises at least about 5% (by total weight of the superabsorbent particles) are flake superabsorbents.

The Office has cited column 7, lines 49-50 and column 15, lines 37-39 of Everett, et al. in support of its assertion that Everett, et al. disclose an absorbent article for absorbing a complex fluid comprising an absorbent structure and superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents. Applicants respectfully submit that the Office appears to be misinterpreting Everett, et al. Although Everett, et al. do state that the superabsorbent particles used in their absorbent products may have a flake shape, (*see* Everett, et al., col. 15, lines 37-39), there is no disclosure in Everett, et al. of an absorbent article comprising superabsorbent particles wherein at least about 5% (**by total weight of the superabsorbent particles**) of the superabsorbent particles are flake superabsorbents. The passage of Everett, et al. cited by the Office (i.e., col. 7, lines 49-50) merely describes the minimum amount of superabsorbent material in the first layer of the absorbent core.[5] There is no mention in this passage of flake superabsorbents, much less any disclosure or suggestion that at least about 5% (by total weight of the superabsorbent particles) of these superabsorbent particles are flake superabsorbents.

There are also several other passages in Everett, et al. that provide amounts of superabsorbent particles.[6] However, like the above cited passage, none of these passages are referring to the amount of superabsorbent particles that are flake superabsorbents. Rather, they are simply describing the amount of superabsorbent particles that may be present in various absorbent layers of Everett's absorbent product. There is simply no disclosure or suggestion in Everett, et al. of an absorbent product comprising superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents.

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[5] "Such first layer desirably includes a minimum of not less than about 5 wt% superabsorbent." Everett, et al., col. 7, ln. 49-50.

[6] *See, e.g.*, Everett, et al., col. 23, ln. 35-38 ("The first layer portion can also contain a minimum of not less than about 20% of superabsorbent material by weight, and desirably contains not less than about 30% superabsorbent."); col. 24, ln. 15-18 (stating that the second layer region portion can include a blend of hydrophilic fibers and superabsorbent gelling material, such that about 20-80 wt% of the composite is composed of superabsorbent particles); and col. 26, ln. 21-23 ("The second layer portion can also contain not less than about 5% of superabsorbent material, by weight, and desirably contains not less than about 15% superabsorbent.").

Furthermore, as noted above, in direct contrast to Applicants' disclosure, Everett, et al. teach the use of spherical superabsorbents. For example, in one preferred embodiment of Everett, et al., and in the Examples, the controlled-rate superabsorbent is configured with relatively large particle sizes to provide particles having a low surface area to volume ratio, which thereby produces the desired absorbent rate. The controlled-rate superabsorbent particles can have a **substantially spherical or other three-dimensional shape which operatively generates the desired low ratio of surface-area-to-volume** and delayed absorbency rates.[7] As such, Everett, et al. teach away from preferably using flake superabsorbents as the superabsorbent particles in their absorbent article.

Moreover, the common sense of one ordinarily skilled in the art would not have provided a reason to modify the Everett, et al. reference to arrive at Applicant's absorbent article of claim 1. Everett, et al. merely list flake shaped superabsorbent particles as two of eight different shapes their superabsorbent particles may have. There is nothing in Everett, et al. to suggest that using flake shaped superabsorbent particles would provide any particular advantage over any of the other shapes listed in Everett, et al. As such, why would one skilled in the art, reading Everett, et al., have a reason to produce an absorbent article comprising superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents? One skilled in the art would not have such a reason as there is simply nothing in Everett, et al. to suggest that at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles should be flake shaped.

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[7] U.S. 6,437,214 at column 18, line 65 through column 19, line 5.

As there is no teaching or suggestion as to the amount of flake shaped superabsorbent particles in the superabsorbent materials used in Everett, et al., there is no disclosure or suggestion to provide the necessary reasoning needed by one of ordinary skill in the art to modify the amounts of flake shaped superabsorbent particles in the superabsorbent materials to arrive at the specific absorbent article as required in claim 1. And, claims 17-20, which depend on claim 1, are thus patentable over the Everett, et al. reference for the same reasons, as well as for the additional elements they require.

Claims 25-26, and 28 depend from claim 24, which is similar to claim 1 and discussed above. Claim 24 is patentable over the Everett, et al. reference for the same reasons as set forth above for claim 1, as well as for the additional elements it requires. Claims 25-26 and 28 are thus patentable over the Everett, et al. references for the same reasons as set forth for claim 24, as well as for the additional elements they require.

CONCLUSION

For the reasons stated above, Appellants respectfully request that the Office's rejections be reversed and that claims 1-4, 6-10, 12-20, and 22-28 be allowed.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. An absorbent article for absorbing a complex fluid comprising an absorbent structure and superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents and have an average surface area to volume ratio of at least about 0.05 μm^{-1}, an average thickness of no more than about 40 micrometers, and a particle size distribution of from about 100 micrometers to about 850 micrometers.

2. The absorbent article as set forth in claim 1 wherein the average surface area to volume ratio of the flake superabsorbent particles is at least about 0.07 μm^{-1}.

3. The absorbent article as set forth in claim 1 wherein the average surface area to volume ratio of the flake superabsorbent particles is at least about 0.10 μm^{-1}.

4. The absorbent article as set forth in claim 1 wherein the average surface area to volume ratio of the flake superabsorbent particles is at least about 0.20 μm^{-1}.

6. The absorbent article as set forth in claim 1 wherein the superabsorbent particles having the average surface area to

volume ratio of at least about 0.05 μm^{-1} have an average thickness of from about 10 micrometers to about 30 micrometers.

7. The absorbent article as set forth in claim 1 wherein the superabsorbent particles having the average surface area to volume ratio of at least about 0.05 μm^{-1} have an average thickness of from about 15 micrometers to about 25 micrometers.

8. The absorbent article as set forth in claim 1 wherein at least about 10% (by total weight of the superabsorbent particles) of the superabsorbent particles have an average surface area to volume ratio of at least about 0.05 μm^{-1}.

9. The absorbent article as set forth in claim 1 wherein at least about 15% (by total weight of the superabsorbent particles) of the superabsorbent particles have an average surface area to volume ratio of at least about 0.05 μm^{-1}.

10. The absorbent article as set forth in claim 1 wherein at least about 20% (by total weight of the superabsorbent particles) of the superabsorbent particles have an average surface area to volume ratio of at least about 0.05 μm^{-1}.

12. The absorbent article as set forth in claim 1 wherein the superabsorbent particles having an average surface area to volume ratio of at least about 0.05 μm^{-1} have an average particle size of from about 200 micrometers to about 700 micrometers.

13. The absorbent article as set forth in claim 1 wherein the superabsorbent particles having an average surface area to volume ratio of at least about 0.05 μm^{-1} have an average particle size of from about 300 micrometers to about 600 micrometers.

14. The absorbent article as set forth in claim 1 wherein the absorbent article is selected from the group consisting of tampons, interlabial pads, feminine napkins, diapers, incontinence products, wound dressings, surgical drapes and gowns, floor mats for surgery, and sponges or wipers used during surgery.

15. A feminine napkin comprising an absorbent structure and superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents and have an average surface area to volume ratio of at least about 0.05 μm^{-1} and a thickness of no more than about 40 micrometers, and an

average particle size distribution of from about 100 micrometers to about 850 micrometers.

16. The feminine napkin as set forth in claim 15 wherein at least about 15% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents.

17. The feminine napkin as set forth in claim 15 wherein the average surface area to volume ratio of the flake superabsorbent particles is about 0.10 μm^{-1}.

18. The feminine napkin as set forth in claim 15 wherein the average surface area to volume ratio of the flake superabsorbent particles is about 0.20 μm^{-1}.

19. The feminine napkin as set forth in claim 15 wherein the thickness is from about 10 micrometers to about 30 micrometers.

20. The feminine napkin as set forth in claim 15 wherein the thickness is from about 15 micrometers to about 25 micrometers.

22. The feminine napkin as set forth in claim 21 wherein the average particle size distribution is from about 200 micrometers to about 700 micrometers.

23. The feminine napkin as set forth in claim 21 wherein the average particle size distribution is from about 300 micrometers to about 600 micrometers.

24. A method for absorbing blood or menses comprising contacting the blood or menses with an absorbent article comprising superabsorbent particles wherein at least about 5% (by total weight of the superabsorbent particles) of the superabsorbent particles are flake superabsorbents and have an average surface area to volume ratio of at least about 0.05 μm^{-1} and a thickness of no more than about 30 micrometers, and a particle size distribution of from about 100 micrometers to about 850 micrometers.

25. The method as set forth in claim 24 wherein the average surface area to volume ratio of the flake superabsorbent particles is at least about 0.10 μm^{-1}.

26. The method as set forth in claim 24 wherein the average surface area to volume ratio of the flake superabsorbent particles is at least about 0.20 μm^{-1}.

27. The method as set forth in claim 24 wherein the thickness from about 10 micrometers to about 30 micrometers.

28. The method as set forth in claim 24 wherein the thickness from about 15 micrometers to about 25 micrometers.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.